

2. PROPOSAL ABSTRACT

Applicant Name: Montana Natural Heritage Program of the Nature Conservancy

Project Title: Information resources for restoration planning: basin-wide wetland/riparian maps, wetland/riparian functional assessment, and comprehensive plant community descriptions.

The Montana Natural Heritage Program (MTNHP) seeks \$394,515 to fund a three-year Monitoring and Research Program to 1) map all wetlands and riparian areas in the Upper Clark Fork River Basin (UCFRB) to National Wetland Inventory standards; 2) perform a landscape-level evaluation of actual and potential wetland and riparian function; and 3) develop a community field guide describing all plant communities in the Basin. Although the United States Fish and Wildlife Service mapped the watershed in the early 1980s, only a handful of these maps were digitized. The riparian areas have never been comprehensively mapped. Without digital maps, it is impossible to use current Geographic Information System technology to conduct watershed-wide assessments of the extent, distribution, classification and condition of wetlands and riparian areas in the basin. This in turn hinders effective restoration, rehabilitation and acquisition efforts, because there is no way to evaluate which wetland functions are most impaired, at risk, or intact. The Montana Natural Heritage Program will use 2005 National Agriculture Imagery (NAIP) 1-meter Color Infrared imagery to classify and delineate wetlands and riparian areas and produce digital maps meeting National Wetland Inventory standards. Each digital map will cover a U.S. Geological Survey 7.5 minute quad, and digital maps will be made available to the public through the website of our parent agency, the Montana State Library's Natural Resource Information Service (NRIS). The mapping will form the foundation for a basin-wide, landscape level assessment of wetland function. The assessment will be conducted with a Geographic Information System (GIS), based on digital maps, remotely-sensed data, and the results of previous field studies as appropriate. It will examine the spatial distribution of the various wetland and riparian types in relation to elevation, geomorphology, hydrology, land use and land cover. The outcome will be a characterization of overall wetland and riparian functioning, and an assessment of the factors affecting functioning in a given landscape unit (e.g. a watershed or sub watershed). Such a characterization and assessment will allow planners and managers to evaluate such issues as habitat fragmentation, areas of high concentration of impacts (mining and non-mining), and the occurrence and distribution of desirable wetland/riparian types. The third component of this project involves the creation of a comprehensive field guide to the hierarchy of vegetation communities (both upland and wetland) within the UCFRB. Restoration planners lack a complete and accessible resource to support the use of native plant communities in their restoration efforts. We will use literature searches and field surveys to create a user-friendly guide available in hardcopy and electronic formats, and will compile a database of all existing vegetation information.